

Green Requirements



Issue Paper Discussion
City of Rockville, Maryland

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**City of Rockville
Zoning Ordinance Revision
Issue Paper**

Green Requirements

PART 1 – INTRODUCTION

I. WHAT ARE GREEN REQUIREMENTS?

Green requirements refer to those regulations in a zoning ordinance that mandate that the land have some vegetative cover versus some manmade covering (buildings, asphalt, cement, etc.). There are a number of green space requirements in the current zoning regulations. In addition, there are a number of alternative green regulations that can be included in the zoning revision. Each section below will explain both the current Rockville requirements and possible alternative solutions to be incorporated in the zoning revision. In particular, this paper addresses open space, impervious surfaces, screens, and landscaping.

The primary purpose of this paper is to make some recommended changes to the City's current policy with regard to green requirement regulations. These changes to the zoning ordinance include:

1. The requirement for all future Planned Development Procedures to dedicate land or provide a fee in lieu for open space to the City and to specify the types of open space to be required.
2. Two new residential regulations that would limit the amount of impervious surface in residential districts: 1) a main building lot coverage limitation and 2) minimum vegetative front yard covering requirement.
3. Providing a design manual for screening and landscaping requirements in the City. The manual will be referenced in the zoning ordinance but particular issues of design will be provided in the manual.



COMMON GREEN REQUIREMENTS TERMS*

Buffer – A strip of land that physically separates two or more different land uses or lots by providing space between the two uses or lots. A screen may or may not be located on a buffer.

Forest - A dense growth of trees, together with other plants, covering a large area.

Commercial Green Area – In the current ordinance, this term is used to mean an area of land associated with and located on the same tract of land as a major building or group of buildings in relation to which it serves to provide light and air, or scenic, recreational or similar purposes. Such space is available for use by the occupants or users of the building, but may include a limited proportion of space so located and treated as to enhance the amenity of the development by providing landscaping features, screening for the benefit of the occupants or those in neighboring areas, or a general appearance of openness.

Green Requirements – Those regulations in a zoning ordinance (open space, impervious surface limitations, screening and landscaping requirements) that mandate that the land have some vegetative cover versus some manmade covering (buildings, asphalt, cement, etc.).

Hardscaping - Features in the landscape other than plant materials. Examples include walks, fences, and retaining walls.

Landscaping - Some combination of grass, trees, hedges, shrubs, ground covers or flowers planted and maintained to enhance the appearance of a development including, but not limited to, walks, fountains, reflecting pools, art works, screens, walls, fences, and benches. Landscaping may be located in or outside a buffer though it is not considered part of forest, streamvalley, and stormwater management areas.

Open Space – A portion of a lot that is set aside for public or private use and will not be developed. The space may be used for passive or active recreation, or may be reserved to protect or buffer natural areas.

Park – A piece of open land for recreational use in an urban area.

Public Areas – Land that is owned and controlled by a government agency (i.e., federal, state, regional, county or municipal jurisdiction) and that is available for the use by the general public. This includes publicly owned parkland.

Screen – The physical separation (visual barrier) of two or more different land uses or lots typically by landscaping (with evergreen plants), fences, or walls that create a barrier between uses or lots.

Streamvalley – The natural features, produced by the physical action of flowing water, which includes intermittent or perennial streams, and adjacent slopes and vegetation.

Treelawn – The strip of land between the street and the sidewalk where trees are planted.

Vegetative Covering – A requirement to have soil, plant life or other natural feature within an area instead of any man-made surface or construction.

*These definitions are meant to assist the reader in understanding common zoning terms used throughout the zoning revision process. These definitions may change when incorporated into the actual language of the ordinance.

II. BENEFITS OF GREEN REQUIREMENTS

A high-quality “green” environment can have a significant impact on the character of a community. First, green areas of a community can promote the health and welfare of residents. The increased concern about obesity in the nation is linked to the increasingly sedentary lifestyle of citizens. Quality green space in a community can promote outdoor activity. In addition, active parks can assist in children’s development by promoting play and encouraging social development and physical skills. Public areas can also provide valuable locations for socialization of neighbors and community gatherings such as a venue for citywide fairs. To ensure that the areas are used, however, these areas need to be well managed to ensure a sense of safety in their use.

Secondly, green requirements can have environmental benefits. As more and more communities are built-out, with asphalt covered streets and parking lots, the more cities have noticed the “heat island effect.” The rise in hard surfaces and reduction of green space has led to higher temperatures in towns than in the surrounding countryside. Another concern of urban areas is run-off due to the amount of impervious (non-absorbing) surfaces, which can negatively affect both groundwater and streams alike. Green space ameliorates this situation by reversing these negative trends. In addition, the increased number of trees can also improve the air quality in town.

Vegetative areas, such as parks, squares, gardens, and other public spaces, also enhance the aesthetics of a community and therefore the economic vitality of that community. Some companies are attracted to locations that offer well-designed, well-managed public places. These places, in turn, attract customers, employees, and services. In addition, some residents are willing to pay more in housing prices to be located near parks and other green spaces.

PART 2 – OPEN SPACES

I. INTRODUCTION

Open space is land used as common areas in a community. There is not necessarily a limitation on ownership, size, and specified activities to occur, or landscape character to these areas. In some cases, like tot lots or recreation centers, public open space may include man-made structures. The open space may be active, meaning the land is set aside for recreational facilities and activities. Active open space may include playgrounds, ball fields, swimming pools, and picnic areas. In the alternative, open space may be passive, meaning the land is retained for use as passive areas or for resource protection areas in an essentially undeveloped state.



Open space can be located in a planned community or it may be separately designated throughout other areas of a community. These areas are sometimes reserved so that they may not be developed with certain manmade buildings and structures but are limited to allowable uses such as parks, walking paths, or golf courses.

The common open spaces found in a zoning ordinance are:

- A. **Parkland** - City-owned parks are permitted in all residential, Rockville Pike, and Town Center zones. The City has approximately 948 acres or 12.9% (of its total area) of parkland.
- B. **Golf Courses** - Currently, private open spaces like golf courses are permitted and exist only in residential zones. Currently 669 acres or 9.1% (of its total area) of the City is dedicated to golf course or country club usage.
- C. **Commercial Green Areas** - Open spaces designed with commercial, office, or industrial buildings (such as courtyards) are developed in the same zone as the primary use.
- D. **Setbacks** - Many of these spaces are filled with structures and paving (fences, yard ornaments, driveways), and their contribution to the City's total open space cannot be calculated.
- E. **Non-Lot Coverage Residential Spaces** – In residential zones, there are lot coverage limitations for buildings (see Part 2, Impervious Surfaces, below). Like setbacks, many of these spaces are filled with structures and paving (fences, yard ornaments, driveways), and their contribution to the City's total open space cannot be calculated.

II. SPECIAL DEVELOPMENT REQUIREMENTS

Open spaces can be controlled through different zoning regulations. Besides zoning to allow uses of city or privately owned parkland, and requiring a certain amount of private open space on individual lots (both residential and non-residential lots), the city may require open space be developed in large-scale developments. As discussed in the "Optional Method / Special Development Procedure" White Paper, special development processes allow for large tracts of land, under a single ownership, to be developed in a manner particular to that tract of land. These processes are an alternative to the existing zone development requirements on that lot.

The purpose of special development procedures (SDP) is to provide residential and commercial clustering options to reduce demands on municipal services, such as transportation and utilities. In addition, options allow for creative new development in order to produce a cohesive neighborhood environment with a variety of housing and commercial opportunities. These options allow flexibility in land use planning in order to improve site layouts, and to protect natural features (i.e., natural topography, wooded areas, and scenery) and environmentally sensitive areas. An imaginative approach to land development can produce interesting plans and a desirable environment that attracts businesses and residents alike.

One consideration for the revision is making open space a higher priority for developers who pursue the proposed Planned Development Procedure (PDP). Currently, the City of Rockville requires in the zoning ordinance that open space be conveyed to the City when a tract of land is developed pursuant to the existing Planned Residential Unit Development requirements. Examples of Planned Residential Unit Developments in the City include Rockshire and Buckingham. In the current Planned Residential Unit development (PRU), multiple family dwelling units are limited to the lesser amount figured by calculating park space dedicated within the developed property or 20% of the total number of dwelling units (current §25-553). The types of space (active, parkland, tree lawns, landscaping, tot lots, greenways, etc.) however, are not specified. In addition, open space has been required as a condition of approval for Comprehensive Planned Developments like Fallsgrove and King Farm (current §25-586 thru §25-595).

As discussed in other white papers, the City intends to revise the current special development procedures. The two proposed procedures for development will include the 1) Amenity Development Option (ADO) and the 2) Planned Development Option (PDO). These will incorporate both new and existing requirements for approval and will consolidate existing processes into a simplified method for review.

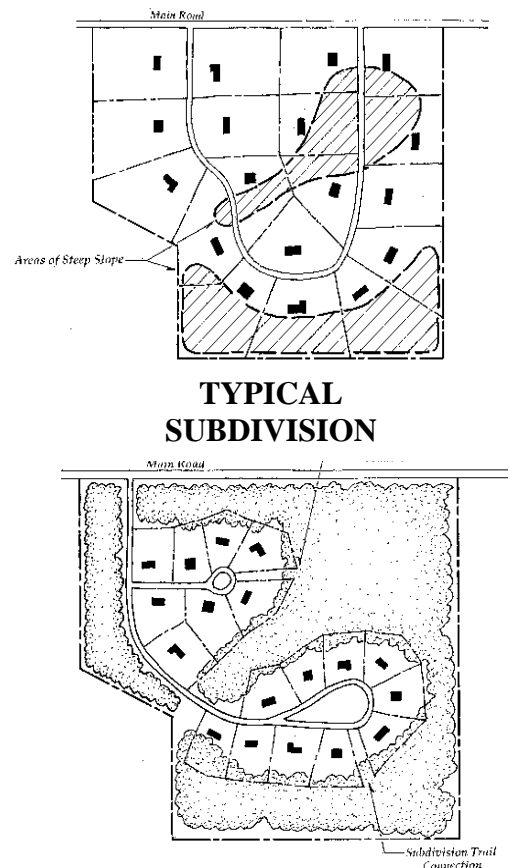
A. Amenity Development Option

The Amenity Development Option will allow a developer certain allowances of regulation alterations if certain amenities are provided to the City. Put another way, if a developer does “X,” they get “Y” development rights. The particulars of this option will be fleshed out in the drafting stage of the revision process; however, one consideration for the type of amenity to be included may be open space.

B. Planned Development Procedure

The Planned Development Procedure will consolidate the current *processes* for special development procedures in the zoning ordinance.

The *requirements for approval* of the different types of developments (Greenfield / redevelopment / residential / non-residential) will vary. Open space requirements may be required for different types of development or they may be required in different amounts for the different types of development. In the alternative, a fee-in-lieu provision may be provided if the property will not support the amount of open space required.



III. OPEN SPACE ZONE

One consideration for the revision is to create a new open space zone(s) for parkland and/or golf course land, which would impose new requirements for that district(s) alone.



A. Purpose

Some communities have implemented an open space zone intended to preserve and enhance public and private recreational areas. These zones allow local governments to regulate where, when, and how new parks are developed. More importantly, it restricts changes in parkland. An open space zone would restrict the ability of the City to sell this land for other purposes.

Currently, most open spaces in the City are zoned within a residential district. If these areas were to be developed, they may do so as long as they meet the development requirements for the residential zone in which it is designated. An open space zone, however, would require a strict finding of “change or mistake” in Maryland to rezone the property to a district that would allow development. Change or mistake is a requirement in Maryland that rezoning must be based on a finding that there was 1) a mistake in the original zoning or 2) that the character of the neighborhood changed to an extent which justified the amendment. It is a difficult standard and often leads to the prohibition of a rezoning.

Many identified purposes have been associated with open space zones:

- Providing opportunities for outdoor recreation;
- Preserving scenic qualities;
- Protecting sensitive environmental areas;
- Preserving the capacity and water quality of the stormwater drainage system;
- Providing pedestrian and bicycle transportation connections.
- Enhancement of the aesthetic and physical conditions of the urban environment;
- Provision of space for recreational activity.

Depending on the location and uses allowed in each zone, open space zones may meet any or all of the identified purposes.

B. Location

Open space zones can be placed on any area that a City deems appropriate. Since undeveloped land reduces densities, large contiguous open space should not be located around mass transit centers. Instead, linear, transit-oriented open space should be provided in these areas such as pedestrian or bike paths leading to/from the centers.

With an open space zone, parks are removed from other districts as a permissible use on the zoning use table, except in the open space zone. Communities that have implemented

an open space zone, however, tend to focus these regulations on *publicly owned land*. Private open spaces, like golf courses, are generally regulated separately. Specifically excluded in other communities' regulations are 1) privately owned commercial recreational facilities (skating rinks, batting cages, golf courses, etc.); 2) private recreation areas that are not publicly accessible; and 3) playgrounds and parks located on public and private school properties.

C. Uses

Uses within an open space zone are limited. There may be only one open space zone in a community where general uses are allowed or there may be different open space zones with specific uses associated with each zone. Generally these uses include 1) agricultural uses, 2) campgrounds, 3) golf courses, 4) parks, or 5) other recreational uses. In some places, limited development has been allowed in these zones, such as 1) day care centers, 2) greenhouses, 3) other retail or service uses in association with the recreational activity, 4) cultural centers (including entertainment venues), and/or 5) museums.

PART 3 - IMPERVIOUS SURFACES

I. INTRODUCTION

Impervious surfaces are those man-made surfaces that do not allow for or will greatly reduce the penetration of water into the ground. Examples of impervious surfaces include concrete, asphalt, bricks, paving stones, plastic sheeting, and compacted gravel and rock areas. While there are concerns about certain types of natural covering (compacted soils or clays, bedrocks, etc.) preventing soil absorption of water, for purposes of the zoning revision, impervious surface discussions will deal only with *man-made surfaces*.

There are two concerns with regard to impervious surfaces. The first is aesthetics. The Mayor and Council have expressed repeated concerns over the ability of property owners to pave over their entire yard. While some might appreciate the reduced need to cut grass, this is not the character of neighborhoods that the Mayor and Council would like to encourage in the City.

The second concern of impervious surfaces is environmental. There are a number of environmental implications to impervious surfaces:

- A. **Flooding** - A greater quantity of rainwater runs off parking lots and other impervious (paved/pavement-like) surfaces. This larger quantity can lead to more frequent flooding as well as streambed erosion, and changed size of natural water channels.
- B. **Water Pollution** - Runoff also collects pollutants as it flows such as salt, petroleum products, excess nutrients, and chemicals and carries them into adjacent wetlands and water bodies. Water quality is, therefore, impacted. In addition, as mentioned before the "heat



island effect” can increase the temperature of the water that is deposited into these wetlands and water bodies, which can negatively impact the life within the water systems.

- C. **Loss of Groundwater** - Impervious surfaces prevent or inhibit water from naturally seeping into the soil and recharging groundwater supply.
- D. **Health Hazards** - Improperly graded impervious surfaces can also collect stagnant water, which can become a breeding ground for mosquitoes with the associated nuisance and human health hazards.

II. RESIDENTIAL REGULATION OF IMPERVIOUS SURFACES

Currently, the City of Rockville has no limitation on the ability to pave over an entire residential yard. While there are limitations on lot coverage, these lot coverage limitations control only building footprint on a lot, and not paving materials. The City does not currently have the ability to keep track of paving like driveways or patios. A greater discussion on this issue is provided below. There are two identified alternatives to impervious surface coverage limitations which will achieve the same goal (less man-made ground covering in residential districts) but which will be easier for the City to administer.

A. Concerns of Regulating Residential Impervious Surfaces in a Zoning Ordinance

There are some concerns with specifically regulating impervious surfaces in the zoning ordinance.

1. Definition – The concerns of impervious surfaces addressed in part I above include aesthetic and environmental issues. Unfortunately, the types of lot coverage materials that may be controlled for aesthetic concerns may not be the same materials controlled for environmental concerns, such as stormwater management. For instance, pools are not considered impervious for purposes of stormwater management because they do not cause water runoff in most situations (there is often space for extra water to fill in the pool before it runs off). Pools, however, do pose an aesthetic issue and they cut into the amount of green space on a lot. Similarly, plastic sheeting used to line flowerbeds is hidden under soil and does not cause aesthetics concern. This sheeting, however, does prevent or impede the penetration of water into the ground and is considered an impervious surface from a stormwater perspective.
2. Other Code Controls in Rockville – A primary concern with impervious surfaces is the runoff of water from one residential property onto the neighbors’ property. Stormwater management is currently addressed in several ways in the City of Rockville. Currently, Sec. PM-303.2 of the BOCA Property Maintenance Code, as incorporated by Chapter 5, Article XII of the City Code, reads as follows:

Grading and drainage: All premises shall be graded and maintained to prevent the accumulation of stagnant water thereon, or within any structure located thereon. Any surface or roof drainage which creates a structural or health hazard, or any other nuisance, to the owners of occupants of adjacent premises, or to the public by reason of discharge into, onto or across any adjacent building, premises or public thoroughfare, shall be abated by the owner of the improperly drained area. The Code Official shall require the drainage to be disposed of in accordance with the provision of the plumbing code listed in Chapter 8.

In the older, developed areas of the City this regulation would apply to any property owner wishing to increase impervious surface. The increase in water runoff from a change on the owner's yard cannot affect their neighbors. Some form of control, be it dry wells or piping the water to the City's storm drains (directly, or via the street gutters), is required.

The City has had an on-going program of creating or improving regional stormwater management facilities to control runoff and sediment from portions of the City that were developed prior to any substantive stormwater control. Regional facilities also control stormwater from a number of recent developments; however it is not feasible to locate or improve facilities in all developed areas of the City.

Most of the Comprehensive Planned Development projects have some degree of stormwater and sediment management programs that were approved as part of the initial development. Newer areas such as King Farm and Fallsgrove have extensive open spaces and stormwater management ponds.



3. Permitting- The City of Rockville does not currently have any permitting requirements for certain impervious surfaces that can be developed on a lot, such as driveways, patios, etc. To calculate total impervious surface areas on a lot would require new administrative mechanisms (a permitting requirement) on the part of the City and therefore might require additional staff to implement this process.

In addition, to enforce a permitting requirement for these types of impervious surfaces, landowners would have additional burdens for any application for development on their property. Not only would they be subjected to the additional cost of the new permit type, but also they would need to provide the City with a survey of their yard demonstrating all impervious surfaces on the lot. In general practice, the City does not currently require submission of a surveyor-certified plat

for routine additions, decks, and accessory buildings. A dimensioned drawing submitted by the property owner is often sufficient. If there is a question as to whether a lot meets lot coverage requirements, the question is often resolved by looking at the aerial photos in the GIS system. Incurring the accuracy of an impervious surface requirement would necessitate the submission of a certified survey of the property. As discussed in the mansionization issue, lot surveys could add a substantial burden to some residents as they currently range in cost from \$500 to \$2,000, depending on the surveyor used and the size of the lot. That becomes a real burden if all the applicant desires to do is to install a \$500 pre-fabricated shed.

4. Cap Limitations - Determining what the impervious surface limitations should be for each area is a difficult decision. Using impervious surface caps can allow for very large impervious surface areas on large lots. A 20% cap, for instance, on a 5-acre lot would still allow for 1 acre of impervious surface. If the concern with impervious surfaces stems from stormwater management issues, any impervious surface limitation should be applied to the entire City, not just residential zones. Due to the different characteristics of different zones, (i.e. more impervious surfaces are expected in commercial areas than residential zones) a sliding scale of impervious surfaces should be provided, if impervious surfaces are regulated.

The type of regulation that puts a maximum limitation on impervious surfaces is an example of a prescriptive regulation (stating what a community does not want to see). As discussed in the Urban Design White Paper, the zoning revision would like to step away from prescriptive regulations, especially for newly developed regulations. By couching the regulation in terms of what a community does not want to see developed (for example, no more than 20% impervious surface on a lot), the regulations do not provide encouragement to “think outside the box,” and to create the innovative, high quality design the community does want.

B. Alternatives to Residential Impervious Surface Regulations

1. Lot Coverage Limitations - As stated above, the City does have lot coverage limitations. Actually, the City has two coverage requirements in the current zoning ordinance, 1) accessory building lot rear yard coverage and 2) total building lot coverage. A third coverage requirement, main building lot coverage, may be considered for the revision.
 - a. *Accessory Building Lot Coverage Limitation* - The accessory building lot coverage limitation restricts the amount of rear yard (measured from the rear side of the house across the entire width of the lot) an accessory building (shed, garage, barn, etc) may cover.
 - b. *Total Lot Coverage Limitation* - The lot coverage limitation restricts coverage of the entire lot for *both* the main and all accessory buildings. In other words, the

footprints of all buildings on a lot are added together and divided by the total square footage of the lot.

- c. *Main Building Lot Coverage Limitation*— The City currently does not limit the footprint of the main building on a lot. Other communities, however, have established such regulations. This regulation would limit the footprint of the main building alone.
2. Vegetative Coverage Requirement - As an alternative to impervious surface limitation, some communities have begun implementing a vegetative coverage requirement in their zoning ordinances. Vegetative covering regulations are proscriptive (state what the community does want to see – i.e. more green space on a lot). This type of regulation will ensure that lots are developed with the type of green covering that the City would like to see.
- a. *Definition* – Vegetative covering is that portion of a lot in a residential zone that consist of grass, planting beds, shrubs, trees, and other landscaping features located on a pervious surface. Items such as decks, driveways, patios, sidewalks, and similar impervious surfaces are not considered residential vegetative covering.
- Vegetative covering requirements could be placed either: 1) on the entire lot; 2) as separate front and rear yard requirements or 3) as front yard requirements alone.
- b. *Percentage Requirement* – The attached graphic (Attachment 1) illustrates a “typical” R-60 lot, with a series of improvements that one could expect for a lot without a built-in garage. These improvements include a 2-car garage with driveway and apron, a garden shed, and a deck. The impervious surface area totals 54.5% of the lot. Of that, 30% is building coverage, well within the 35% allowed in the zone.

If the City includes a vegetative coverage requirement, the minimum front yard green area requirement should be set at 60% to 65% (in the R-60 zone), thus allowing enough space for two parking spaces. The rear yard green area minimum would be set at 40%. A sliding scale for the larger lot zones is needed to increase the minimum vegetative area.

Because of the small lot nature of mixed-use and multi-family developments, the vegetative coverage regulation may only be applicable in single-family zoning districts. In other words, there is sometimes not a great amount of space on a multiple family and mixed-use lots to require vegetative covering requirements.

In addition, any development created with a special development procedure will need to be considered on a case-by-case basis. One consideration could be to

include vegetative requirements as an amenity or as a development regulation to be adjusted when using the Amenity Development Option.

- c. *Enforcement* - This type of regulation is easier to enforce than permitting requirements of impervious surface limitations. If the City of Rockville were to adopt a minimum vegetative area requirement, the current procedures for review can likely continue. In cases of garages and other accessory structures, the City already makes a determination that the total building area does not exceed 25% of the rear yard based on plat and GIS information. From the City's perspective, there would be a need for added review time for every application, a likely increase in variance requests, and added permitting requirements. Like many other requirements in the City, after initial inspections or any "trigger" activities for an inspection (renting a property, reconstructing the building), enforcement will be through neighborhood monitoring.

III. CITY-WIDE IMPERVIOUS SURFACE REGULATIONS

A. Competing Policies

The Mayor and Council have in the past expressed an interest in strengthening the Forest and Tree Preservation regulations to help preserve existing trees in the City. While this is a bit easier to accomplish in the one-family residential areas, it is much more difficult in the commercial and mixed-use areas. In areas such as the Town Center, it is desirable to have the buildings against the sidewalks and close to the street. The density of such development virtually requires 100% lot coverage, either for buildings, or for parking and loading areas. Even in areas where extra density is not expected or desired, most commercial development will occupy all of the available lot area.

New street trees can help compensate for the removal of existing trees. In addition, setting aside small public park areas within the high-density development area can help, and might be one possible way to preserve some trees if overall plan can accommodate the park area(s).

It is routinely expected that commercial and industrial areas will have a high degree of impervious surface area. The City plans for this by requiring underground stormwater management areas where feasible, and conveying the runoff to regional stormwater management facilities elsewhere in the City. The trade-offs between desired densities need to be considered in the context of the Master Plan.

B. Possible Solutions

1. Set Standard v. Amenity Option – One consideration for the revision is whether the trade off between tree preservation and meeting established development regulations is a set standard applicable to all development or all of a certain kind of development (mixed use, residential, new development or redevelopment) or whether this

regulation is a trade off applied in the amenity development option. If applied as a standard, this regulation must allow flexibility to not allow the tree preservation requirement to stop all possible development on a site. If it does so, it would be considered a taking. If applied as an amenity option, there must be a trade for certain development rights to the developer. In addition, the amenity would be provided only at the choice of the developer. In certain situations, the City would still lose certain trees.

2. Flexible Regulations – As either a set standard or an amenity option, the preservation of trees would require flexibility in the ordinance. One of the flexible options was included in the parking paper. There, it was recommended that only certain percentage of the parking lot be required to be paved until the full amount of parking spaces are demonstrated to be necessary.

Included in the flexibility would be afforestation requirements, for those trees that would need to be removed.

PART 4 – SCREENING

I. INTRODUCTION

Screens, also called “buffers,” are used in zoning to provide privacy from the visual intrusion of unlike or incompatible uses. Although the terms are used interchangeably in common parlance, there is a difference between the two terms. Buffers are spaces of land that separate two uses or lots. Screens are the actual landscaping materials (walls, hedges, trees) that may or may not be located within a buffer (see definitions on page 2). As the typical screen is only 10 to 20 feet in width, they only serve to protect from visual intrusions. To provide privacy from noise, screens need to be 40 to 100 feet in width. They can also provide visual interest within a landscape, lessen the monotony of the streetscape, and breakup and reduce the impact of parking areas. Screens can take many forms but are most often fences, walls, berms, or vegetative landscaping (trees and hedges). Screening can be used to divide the view on a single property to obscure the view of loading, trash or dumpster areas, rooftop units, or outdoor storage areas or they can be used to divide the view between two or more properties. Separate property screens are used to mitigate the impact of what can be built or planned to be built on the property.

A. Common Zoning Requirements

Screening is generally used in commercial, office, and industrial zones, but can also be used to separate higher density from lower density development or may be required between different types of zones. Screens can be voluntarily placed on one’s own property; however zoning regulations require screens in



certain places. The most common zoning regulation requirements of screening are between non-residential uses and zones and residential districts. When determining where screening should be provided, evaluation should consider the adjacent existing uses and planned uses (i.e. anything in the pipeline and/or any uses allowed in the zone).

Screening can be required at various times of development, but most commonly are triggered with new construction or redevelopment of properties. For instance, a property that has not been previously developed could have screening applied initially, while a property that has been developed, but is being altered could have screening re-evaluated to see if the buffers are still necessary or if modifications to require screens need to be made.

B. Potential Problems of Screens

Screening can create problems within communities when they are unnecessarily mandated. For instance, screening between similar uses, tends to isolate properties and prevent community interaction. Screening can effectively create a “walled” community, when tall opaque fences, walls, hedges, or trees are placed around the perimeter of most of the property. While there is no gate or password required to enter these developments, heavily screened areas create the same feel of a gated community.

In addition, too many screen requirements or the wrong type of screen in the wrong place can create traffic hazards by limiting views. The level of screen allowed should block the view around the community but should not block the view of traffic when exiting the community. When coming out of a parking lot or entering an intersection, the height of the screening should be reviewed to ensure that no object will obstruct the view of a motorist or pedestrian.

II. CURRENT ROCKVILLE REGULATIONS FOR SCREENING

The City of Rockville Zoning Ordinance regulates screening 1) in particular zones (industrial, office, and commercial) and 2) for specific uses (parking and mechanical equipment). Though these screening regulations are limited in the City, a number of developments have been approved with a screen requirement as a condition of approval, either as a special exception, use permit review, or special development procedure. Currently, there is little guidance for the Board of Appeals or Planning Commission in making these screening conditions.

A. Screening by Zone

The current Zoning Ordinance specifies that all office, all commercial and most industrial zones (all but I-3) are required to have screening when they abut land zoned or planned for residential use. The developer of land in these zones abutting residential land is required to provide a certain amount of opacity screening at all times up to a height of five feet.

B. Screening by Use

Parking lots in two office zones (O-2 and O-3), one commercial zone (C-T), and one industrial zone (I-3) are required to be screened in order to minimize the visibility of such areas to residential zones and to public streets and walkways. In addition, the I-3 and I-4 zones (except when developed under optional method of development) are also required to have the parking lots screened from the street.

Lastly, the Zoning Ordinance requires all zones to screen mechanical equipment, transformers and equipment lockers when they cannot be placed underground. In addition, all utility lines, including electric, telephone and other lines are required to be underground whenever an extension or relocation of them is required in connection with the development or redevelopment of the property. The exception of the placement of underground utility lines is for temporary service for development or redevelopment of the site.



C. Screening as a Condition

While the City does not want to continue to develop isolated communities, screening continues to be adopted as conditions of individual land use approvals. More guidance can be provided in the zoning ordinance, or as a separate design manual for the types of screening that can be imposed. Currently, most common screens imposed as conditions are required to be opaque, and many provide quick growth so that a buffer is created within only a few years after planting, instead of waiting decades. The Rose Hill buffer from Autumn Wind Way and King Farm's buffer from abutting major streets are examples of the types of buffers imposed as a condition in the City. Alternatives which allow for more integration of communities but which still provide some privacy can be provided such as low shrubs, openings in screens, or more translucent materials.

PART 5 – LANDSCAPING

I. INTRODUCTION

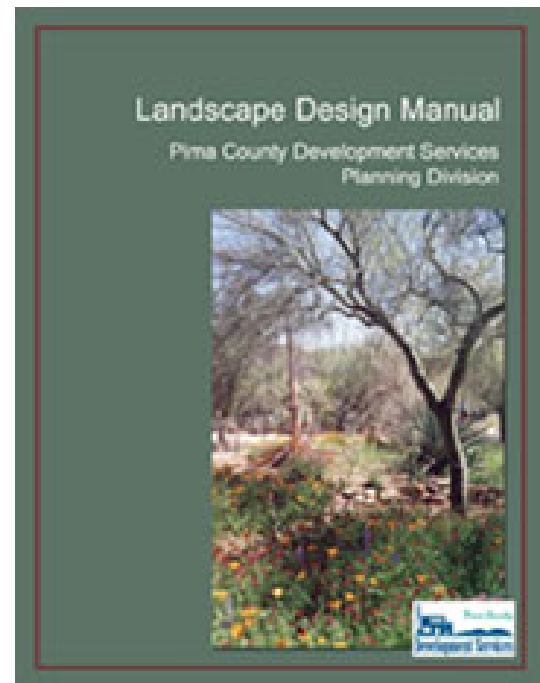
Landscaping requirements were developed and have evolved over the years because of the many benefits associated with appropriate uses of landscaping within a community. The purpose of the landscaping standards are to 1) enhance the appearance and natural beauty of the City, 2) to improve the overall environmental quality, 3) to aid in pollution control, and 4) to protect and preserve the appearance, character and property value of surrounding neighborhoods. A carefully designed environment can preserve the aesthetic character of the community and improve the quality of the built environment. For example, landscaping can screen undesirable views (see Screening, above), interrupt the barren expanse of large parking lots, and relieve the scale of large buildings. Environmentally, it can also deter erosion, promote native wildlife, allow for infiltration of surface water into groundwater resources, and reduce the quantity and improve the quality of storm water discharge.

II. PARTICULAR REGULATIONS

Currently, the City of Rockville Zoning Ordinance requires landscaping in only a few zones, 2 industrial districts (I-3 and I-4), 1 office district (O-3) and 2 Rockville Pike zones (RPC and RPR). All these zones, except the I-4 district, require between 10 and 40 percent of net lot area to be landscaped. The land set aside for landscaping can be broken up throughout the lot or can be largely consolidated in one place. The landscape design is to be submitted and approved by Planning Commission. The I-4 Zone requires “all areas not used for buildings, off-street parking or loading, or for outdoor storage areas” to be landscaped. This landscaping plan must be submitted and approved by the Planning Commission who will ultimately approve how landscaping will be distributed on the lot.

Development under the OMD in the I-3 Zone is required to have 40 percent of the overall site devoted to green area and be landscaped according to the approved plan. The approved plan will be submitted to and approved by the Mayor and Council.

Other landscaping requirements are located in the Subdivision Ordinance section of the Zoning Ordinance. These regulations require the applicant, when subdividing property, to install three trees on each lot. One tree must be located in the front of the property and the other two in rear of the property. In addition, street trees are also required under the subdivision regulations, which require one street tree per forty feet of lot frontage adjacent to the public right-of-way. The subdivision regulations specify the size and type of tree to be planted.



III. LANDSCAPING DESIGN GUIDELINES

Rockville's current landscaping regulations are few. Other communities have expanded landscaping regulations. Some of these communities place these requirements in the zoning ordinance itself; while others adopt landscaping design guidelines as a separate document maintained outside the zoning ordinance. Included in these guidelines may be any number of issues. Most common are acceptable tree / shrub varieties, tree care issues (irrigation and maintenance), explanation of requirements for a landscaping site plan, and parking lot landscaping design.

PART 6 – RECOMMENDATIONS AND CONCLUSIONS

I. RECOMMENDATIONS

A. General Recommendations

1. Increase the green requirements in the zoning revision. To create a quality urban environment, the City needs to increase their green requirements to provide quality open spaces, landscaping, and other natural features.
2. Clarify green requirement definitions. By ensuring that the green requirements definitions provided in the ordinance are clear and reflect the type of green space that the City would like to see, it will be easier to regulate exactly where each type of green requirement will be located. For instance, in urban areas of the City (Town Center and Rockville Pike), paved areas may count as open space. Rooftop gardens, courtyards, and other hardscaping may be sufficient with the right amount of associated plantings to be considered adequate open space. In residential areas, however, impervious hardscaping will be limited.
3. Allow flexibility for one type of open space to change to another. Many stormwater management ponds built in the late 1980's are now becoming obsolete. While the City does not want to encourage development on these areas, there should be flexibility provided in the ordinance to change the type of open space in these areas.

B. Open Space

1. Include requirement for all types of Planned Developments to dedicate open space or to provide a fee in lieu to the City. Currently, open space dedication is only a zoning requirement for new developments in the Planned Residential Unit Development. Open Space, however, has been addressed as a condition in large Comprehensive Planned Developments (Falls Grove, King Farm, and Tower Oaks). In accord with the Master Plan recommendations the following should be included in the revision with regard to planned developments:

- Require different open space dedications based on the type of development requested – Percentages should be given in the ordinance stating what portion of each type of open space should be created with a development – active parkland, tree lawns, greenways, tot lot, etc. Some, such as tree lawns, should be required for all new and redeveloped sites. Others may be based on the number of residents generated and/or the needs of the surrounding areas. A matrix showing the various sizes of development and the types of required open space (tennis courts, tot lots, walkways, etc.) to dedicate should be provided. Contiguity of open space should be required if desired by the City. If active open spaces are desired, the requirement should not be met through a number of small, separate sections of landscaping (islands or medians of trees). In addition, a fee in lieu option should be provided, as recommended in the Master Plan.
 - In the alternative, allow a fee in lieu contribution to an open space fund. Where the amount of open space required under the zoning ordinance is not available on the property, a fee in lieu contribution should be allowed. The money collected can be used to provide open space elsewhere in the community or to maintain the current open space.
 - Clarify the difference between Public Park and private open space – The current ordinance language for public parks should be more particular so that the dedication requirements are not ambiguous.
 - Exclude other open space requirements from parkland requirements - With regard to Falls Grove and Upper Rock developments, a large area of the development was required to be set aside to meet other standards of the ordinance – setbacks, stormwater management, parking landscaping. While those green covering requirements were used to meet the overarching open space requirement for approval, it left little area to be used as active parkland. If it is the intent of the City to require open parkland when any open space requirement is provided, this needs to be clarified in the revision.
2. Do **not** include an Open Space Zone in the City. – Staff does not recommend the inclusion of an open space zone in Rockville. Because the standards of change and mistake in Maryland are so stringent, it would be difficult for the City to release land zoned under this category.
- **Privately owned open space** – Woodmont Country Club, for instance, if ever developed, would be developed under the Planned Development Procedure recommended in a separate White Paper. A portion of the property to be developed would be required to be dedicated as open space or a fee in lieu.
 - **City owned open space** – The Mayor and Council should continue to maintain the flexibility and decision-making authority of broad land-use policy for the City. If it is considered in the best interests of the City to sell or develop currently

designated open space, it should have that ability without meeting the requirements of the change or mistake rule of the state. In addition, with the continued pursuit by the City to develop more open space with each new development (Amenity Development Option and Planned Development Procedure), the additional design standards to provide more requirements for active parkland currently are sufficient to ensure that the City provides adequate open space.

C. Impervious Surfaces

1. Include in the regulations for single-family detached residential districts two new requirements:

- A main building lot coverage limitation in addition to the other 2 lot coverage limitations currently required in the City; and
- A vegetative coverage requirement in the front yard.

Due to the considerations addressed in this paper regarding an impervious surface limitation, staff recommends the above two requirements be added to the Rockville City Zoning Ordinance. At this time, these regulations will be applied to all one-family residential districts, not just the three smallest residential districts where disproportionately sized houses are being built. They will not, however, be applied to existing special developments. Currently existing and future developments like King Farm and Falls Grove will be considered as a whole and not on an individual lot basis. The conditions usually included in the approval process, coupled with the HOA oversight, should be sufficient to control the great majority of potential problems. Modifications to the HOA open space would generally require approval of an amendment to the original approval conditions, which would give the City that degree of oversight. A consideration of the draft is to allow future special development procedures developments to modify this development requirement, if additional amenities are created (for example, increasing public access open spaces).

Staff recommends that the vegetative covering requirement be limited to the front yard. The street appearance sets the primary character of the neighborhood. This requirement is much more easily recognized and enforced in the front yard than the rear, without the need to gain access to private property. The rear yards will remain as they are now, with coverage based on accessory buildings maximums. Rear yard vegetative covering requirements would be difficult to enforce and could generate ill will on the part of the homeowners.

In addition, this regulation will go into effect for all existing development in base residential districts. A number of nonconforming lots could be created from this regulation. As stated in the nonconformities paper, staff will continue to consider how all nonconformities will be addressed when the types of nonconformities to be created are established.

2. Include in the amenity development option the ability for commercial developments to not completely pave the entire surface of required parking spaces but to provide the necessary space to meet parking requirements. A recommendation from the parking paper has been to not require complete paving of a required parking surface. The concern of most businesses is to have ample parking on site. To reduce impervious surfaces, however, the City may consider providing incentives to businesses to not pave over the entire parking surface until demand is demonstrated for 100% of the spaces required under zoning regulations. Although 100% of the land for parking should be provided, under this amenity, only a portion (for example 85%) of the lot must be initially paved.
3. Include in future review of other Code sections, the review of the property maintenance code runoff section. The current language is not as strong as the City would like to make it to restrict residential run-off into other yards. While the City does cite citizens for noncompliance, the problem in most situations stems from the original grading.
4. Provide staff with policy direction with regard to competing policies of 1) tree preservation and 2) regulations which sometimes require that trees be removed (setbacks, parking requirements, etc.) so that regulations can be developed to reflect that direction. The location of a certain trees in both residential and mixed use developments under current regulations means that they must be removed to allow developments to meet setbacks or parking requirements. If the revision includes more tree preservation regulations, the ordinance will need to be flexible if a certain tree or trees are deemed necessary by the City Forrester to keep.

D. Screening

1. Provide a Landscaping and Screening Manual for screening requirements. The zoning regulations will reference the need to comply with the design regulations; however the particulars of screening and landscaping requirements will be addressed in the manual. The purpose of this Landscape and Screening Manual will be to enhance the appearance of the City of Rockville by improving the quality of landscaping, buffering, and screening throughout the city.

Screens should be decided on a site-by-site basis; but guidelines should be provided to give deciding bodies standards to be applied throughout the City.

Included in the manual should be requirements for:

- Approved plant list (of native species)
- Depth of Screening
- Maintenance Expectations
- Location of necessary screens

2. Clarify maintenance provisions / standards for screens within the City. Along Wooton Parkway between Fallsmead and Glenwood Road there is a buffer of White Pine trees, the lower portion of which have died. As a result, the trees do not act as a sufficient buffer anymore from the passing traffic. As mature trees, they are hard to replace and the shading limits the ability to plant additional buffering plants underneath. The zoning revision is an opportunity to clarify the maintenance requirements of not only whether the City or the neighborhood is responsible for maintaining the buffer but what types of species would be suitable to replace.
 - a. **Buffers *within* a Community** - Staff recommends that the City exclude themselves from enforcement of buffers within a community. After approval requirements for any necessary permits or review, the City would not be responsible for ensuring that the buffer is maintained. In other words, if the buffer dies, it is the responsibility of the Home Owners Association or individual property owner to replace, if they so choose.
 - b. **Buffers *between* Communities** – Staff recommends that the City enforce the continual maintenance of buffers between communities. Included in the zoning regulations should be the requirement that the City enforce the violations of conditions of approval with the force of law. Citations will be given to the Home Owners Association, where applicable though notice will be provided to the individual property owner on whose lot the buffer exists.
 - c. **Buffers *between* Communities and Roadways** – Staff recommends that the City enforce the continual maintenance of buffers between communities and major roadways. The determination of what is considered a “major roadway” will need to be explained in the ordinance. Like buffers between communities, the ordinance will need to have clear enforcement measures provided to the City.
3. Include in the Amenity Development Option the request for more buffers to be placed in a public easement or ownership by the Home Owners Association. The public access or ownership by an organization allows for easier enforcement because 1) it would own the buffer as a whole unit (instead of piecemeal ownership) and 2) the entity sometimes has deeper pockets and is created for the purpose of maintaining these common areas. On the other hand, requiring individual landowners to maintain a small portion of the buffer that exists on their land is difficult to enforce.

E. Landscaping

1. Provide a Screening and Landscaping Manual for landscaping requirements. Included with the screening requirements should be design requirements for landscaping. Landscaping requirements will be prominent in the Mixed Use districts of the revision. Currently, the term “landscaping” along 355 has been interpreted to mean anything with plants. As a result there is no harmonious design to the area. In addition, some businesses along 355 maintain their plantings by shaping them while

others allow their plantings to grow naturally. In cohesive areas (such as Rockville Pike and the Town Center) more guidelines should be provided to create cohesive landscaping. The types of topics may include:

- Preparation of plans – who is authorized to submit a landscaping plan and the requirements for each plan (size of document, where submitted, what information should be on the plan).
 - Approved plant list (of native species)
 - Amelioration of invasive species
 - Performance surety
 - Maintenance expectations
 - Particular landscape requirements for different developments – subdivision, street trees, stormwater management ponds, residential developments, mixed use areas, buffers, parking, etc. (One particular regulation to revise is the three trees per lot requirement especially in Town House districts. Staff would prefer to require plantings in common areas.)
2. Consider a landscaping taxing district for Rockville Pike and/or Town Center – Staff recommends the use of a landscaping maintenance tax district to ensure that individual areas of the City are maintained, with regard to landscaping, in the manner that the City would like to encourage, if landscaping requirements will be expanded.

II. CONCLUSION

Rockville prides itself on its natural covering as much as its built environment. The zoning revision is an opportunity to ensure that the green requirements are preserved, encouraged, and enhanced. These green areas may be requirements of open space (parks, golf courses, setbacks, etc.), regulations to prevent the negative implications of impervious surfaces, or provisions for adequate screening or landscaping.

The Mayor and Council have stated that their concern with regard to green requirements, such as impervious surfaces, is both aesthetic and environmental. Regulations can be drafted which address both these issues. Providing adequate green space in the City will provide a pleasant atmosphere in which the City's residents and commercial developments feel comfortable. In addition, vegetation will help protect the air quality, water quality, and wildlife of Rockville. Green requirements ensure that citizens and visitors have areas to congregate, relax, or take part in a sport. Through this paper, the discussion has been how to maintain these areas and to encourage the development of more green space in the City.

III. ATTACHMENTS:

1. Typical developed R-60 lot to demonstrate impervious coverage.